JUNE 1961

THE AIR LINE PILOT

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THE AIR LINE PILOT

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CARL STOFFELS Associate Editor
WALLY DEPEW Editorial Assistant
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United Air Lines Photo

This eye-catching photograph of United Air Lines' new Caravelle shows its unique features: the rear-mounted jet engines, elevators mounted high, and the loading stairs. Caravelles are currently undergoing FAA certification tests in France and are scheduled to go into service this summer. Top speed is 530 at 25,000 feet.

(By 1967 Sud Aviation expects to have flying a "Super Caravelle" a four engine delta-wing aircraft. It would be a 1500 mph plane that could carry 80 passengers 12 miles up and with a 1,000 to 2,500 mile range.)

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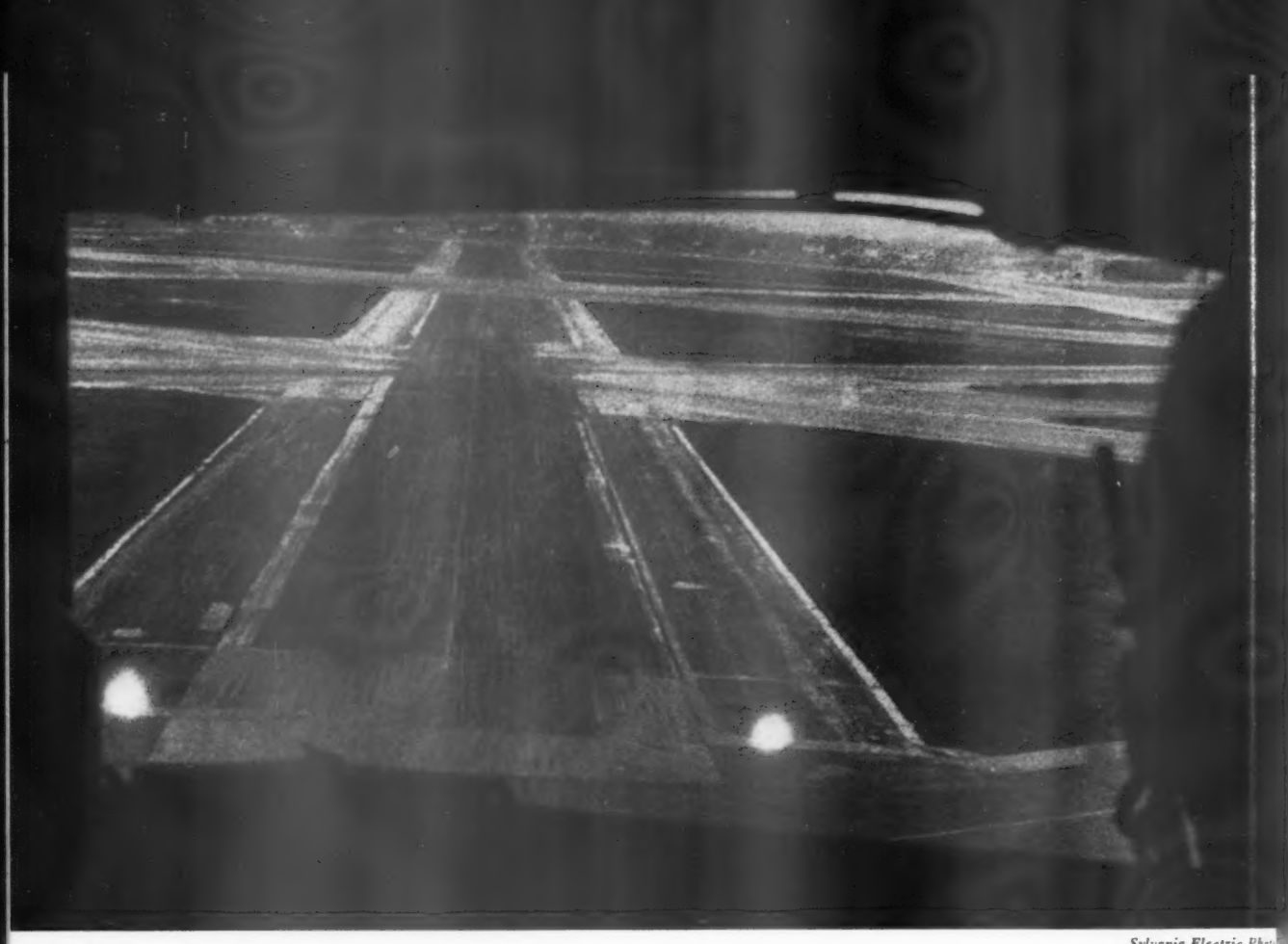


Sylvania Electric Photo

THE NEED FOR ADEQUATE AIRPORT AND TERMINAL AREA FACILITIES

ALPA's study on the amount of federal expenditures required to improve the air safety record was presented before the House Interstate and Foreign Commerce Committees by ALPA president, C. N. Sayen, May 11, 1961. This is the report.

WE ARE here representing the Air Line Pilots Association, International. No one has a keener interest in safety matters than do the individuals who operate our air transport aircraft. Further, we recognize the fact that the aviation industry is unique in that it is almost completely dependent upon the federal and municipal governments to provide facilities for the operation of these aircraft. Consequently, we feel that substantial contributions to aviation safety can result from Congressional interest and we, of course, feel that we have a definite responsibility to bring such matters to the attention of the government in order that we may perform our job with the degree of safety expected of us.

Basically our problem is to move aircraft safely and efficiently from the ramp of a departure airport to the ramp of the destination airport. Most of the facilities necessary to such movement are the responsibility of the federal government, either directly or by regulation. We have previously stressed air traffic control and navigational problems to you. There is not much logic, however, in building an efficient air traffic system between two airports and leaving a bottleneck at both ends. Consequently, along with the urgent airways problem, we will emphasize the great need for assistance in providing adequate airport and terminal area facilities.

Background of federal airport aid program

The National Airport Plan in its amended forms has been in operation continuously since 1947, when Congress passed Public Law 377 at the 79th Congress which provided for the Federal Airport Aid Program.

The purpose of the National Airport Plan has been to assist in providing a system of airports to adequately serve commercial and private aviation needs of the country and to provide for an

immediate increase in the military air facilities in an emergency. Through Federal Airport Aid airport improvement projects have been expedited which otherwise would have been impossible, and these improvements have enabled the aviation industry to grow and develop and to better serve the public interest.

An example of the extensive effect of Federal Airport Aid is evident from a press release of the FAA on March 4, 1960, stating that in fiscal year 1961, 187 commercial airports and 127 general aviation airports are scheduled to receive almost $59 million in matching funds. This requires the local communities to provide at least 6.1 million for land, 24.1 million for runways, 21.2 million for taxiways and aprons, 3 million for lighting, 2 million for control towers, 1.5 million for clearance and obstruction removal and .8 million for marking, fencing, roads, etc.

Further indication of the usefulness of this program is shown by FAA and industry airport planning as revealed in the FAA National Airport Plan for fiscal years 1962-1966. Many additional millions of dollars are required and will be available through the local financing for non-safety airport construction items such as terminal buidings. The Federal Airport Aid Program also encourages the expenditure of local funds on safety priority items where matching funds are permitted. It is interesting to note that in 1950 the National Airport Plan estimated funds just short of a billion dollars would be needed in a three-year period. In the 1959 program just over a billion dollars is estimated to be needed for airport construction projects for a similar three-year period. Yet, in the last 10 years there have been only 285 million dollars (28.5 million a year average) spent on airport aid.

Need for extension of Federal Airport Aid statute

The airways system of the United States is a federal responsibility. An adequate airport system is indispensable as part of the airways system. One cannot function without the other.

Throughout the development of the airline industry, pilots have felt that airport construction and airports' facilities have always been one lap behind aircraft development. Each new fleet of large transport aircraft has required longer runways, better lighting, additional safety factors and improved service facilities, including Air Traffic Control (ATC), to fully take advantage of the performance built into the aircraft. This requires additional planning, time and money to obtain.

The problem is not as simple as merely requiring one standard universally applied throughout the country. Far from it. Even the same aircraft require different facilities and runway length dependent on the stage length of trips, prevailing weather conditions, airport altitude, traffic density, and numerous other factors. However, ther are basic common needs for all aircraft operation to provide the best possible service at the highest possible level of safety.

Only two years were required for jet aircraft to become the accepted method of medium and long distance travel. More than 200 large jet transports have been placed in service in scheduled air carrier operations since the inauguration of service late in 1958. Based on forecast deliveries, more than 300 turbo-jet airliners will be in domestic service by the end of 1961. More are in design and on order. Airport facilities which even previously have not kept pace with the rapid growth of commercial aviation, were rendered further obsolescent by the advent of the jet transports.

Larger transport aircraft are being placed in service by our local service carriers and corporate and private aircraft operators. This development places strain on our airport and terminal area facilities.

Airport adequacy vs. economics and safety

The value of an airport to a community is dependent on many factors. One of the most important concerns runways. There are three areas in which runway adequacy has an economic and safety affect on airport value:

I. Lack of runway length restricts the amount of payload and fuel that can be carried due to compliance with regulations necessary for an acceptable level of safety, thereby reducing airport revenue potential;

II. Lack of more than one adequate runway for continued operations can and has caused an airport to be closed for an extended period of time, and

III. Lack of airport safety standards has resulted in fatal and non-fatal accidents on or near the runway causing expenses not only to the carrier involved but to other carriers.

Let's enlarge on the foregoing through the following examples:

▶ To comply with the performance regulations at maximum gross weight a large twin engine piston transport requires a minimum runway length of 4700 feet at sea level, zero runway gradient, zero wind and standard temperature (59°F.).

▶ When the runway is 500 feet shorter than needed for a full load, a weight penalty of 2400 lbs. occurs, since each foot of runway length is equal to approximately 5 lbs. of useful load.

▶ A large 4 engine (piston) transport, to comply with the performance regulations at maximum gross weight, requires a minimum runway length of 6700 feet at sea level, zero runway gradient, zero wind, and standard temperature (59°F.).

▶ When the runway is 500 feet shorter than needed for a full load, a weight penalty of 4000 lbs. occurs, since each foot of runway length is equal to approximately 8 lbs. of useful load.

▶ A large 4 engine turbine transport, to comply with the performance regulations at maximum gross weight, requires a minimum runway length of 10,200 feet at sea level, zero runway gradient, zero wind and standard temperature (59°F.).

▶ When the runway is 500 feet shorter than needed for a full load, a weight penalty of 5,000 lbs. occurs, since each foot of runway length is equal to approximately 10 lbs.

In addition to the preceding penalties, which relate only to inadequate runway length, as you know, load limitations are imposed by temperature accountability when the runway is not long enough to meet safety requirements.

In addition to economic benefits, however, longer runways would also increase the safety and efficiency of operations. Computations of runway length requirements do not include all operational variables. Pilots, therefore, would prefer margins over the "maximum gross take-off or landing" when any of these variables are likely to be present. However, with larger aircraft requiring progressively longer runways, more of our take-offs and landings will be of this type. (This may help explain why pilots have been so adamantly opposed to allowing credit for reverse thrust as part of landing or take-off distance requirements.)

Another problem which sometimes plagues the efficiency and economy of aircraft operations is the lack of more than one adequate runway on an airport. Closing an airport not only adversely affects the economy and efficiency of the air carriers, but also

U.P.I. Photo

Weather: a constant problem

reduces the income of the airport and causes inconvenience to the air traveler.

As you know, the lack of more than one adequate runway can cause closing the airport for at least the following reasons:

(1) Runway repairs
(2) Snow removal or treating an icy surface
(3) Runway marking

There is no avoiding the above items. They have to be done. When there is only one runway, obviously it has to be closed if any one of the above needs attention. High density traffic airports are, of course, hardest hit at these times.

When highways are closed, detours are provided. To provide continued air service into an airport, more than one adequate runway must be provided. In addition, of course, multiple runways increase the number of aircraft movements the airport can handle. This is vital in our rapidly growing industry and critical to the successful operation of our airways system. There is not much purpose in increasing the capacity of the airways system and leaving a bottleneck at both ends due to inadequate airport facilities.

Recurring accidents on airports

Accidents occur year after year due to soft shoulders on the sides of runways and inadequate underruns or overruns. Accidents of this type are:

(1) Underrun type accidents where the airplane has contacted the surface prior to reaching the paved approach end of the runway.
(2) Overrun type accidents where the airplane rolls beyond the prepared runway surface, and
(3) Loss of directional control where it is not possible for the pilot to maintain a straight course down the centerline of the runway.

Examples of the above types of accidents are as follows:

▶ On June 14, 1960, a DC-8, while experiencing unsymmetrical reverse thrust, veered off the runway, received nose wheel damage, and by protruding over the runway, caused the instrument runway to be closed for 17 hours. Closing the runway for this time period occurred during instrument weather conditions and, therefore, affected air traffic and air carrier operations *in the entire metropolitan area.* Thousands of passengers were affected, the air carriers lost thousands of dollars, a six million dollar airplane was damaged and out of service for several weeks. *A compacted surface* along the runway as shown in our attached drawings might have made the difference.

▶ On February 7, 1961, a similar accident occurred. This time the airport was closed 52 hours to jet operations. This type accident will continue to occur unless the sides of our runways are compacted similar to the shoulders of our highways.

▶ Another *"underrun type"* accident occurred on February 25, 1961, when a large jet airliner landed 18 feet short of the paved runway surface and received severe damage from a sharp one foot rise at the approach end of the runway. This accident closed the runway for an extended period of time, and another six million dollar airliner was out of service for several weeks.

▶ An "underrun type" accident occurred on March 26, 1961. Another large jet airliner landed just short of a runway on an access road. Damage to the aircraft was caused because drainage ditches to the side of the roadway were not graded to allow smooth runup to the runway.

▶ On January 19, 1961, an *"overrun type"* accident occurred which resulted in total destruction of the six million dollar airliner and loss of four lives. The aircraft came to rest 630 feet beyond the end of the runway.

Within less than three months in 1961 we already have had four major accidents in the airport vicinity.

ALPA airport survey

My Association reached the conclusion several years ago that the airport problem, along with the airways problem, was probably the most critical facing aviation. The system was simply not keeping up with the demands on it. We also concluded that the solution lie in an accelerated joint federal-local community effort.

In an effort to establish our requirements in concrete terms, for all operations, the Air Line Pilots Association inaugurated a program in 1959 to survey the 569 airports in the United States into which air line service had been certificated by the Civil Aeronautics Board. It was felt that proper determination of the areas of greatest deficiency would enable us to be more helpful in seeking improvements. The objectives of the survey were to:

(1) Determine where airport inadequacies exist;
(2) Determine what can be done to correct these inadequacies;
(3) Assist local airport management to incorporate desirable features into the airport improvement schedule.

Generally speaking, our data was collected by ALPA safety representatives in the field. This was made possible through the fine cooperation of airport management. Initial surveys have followed by efforts to maintain liaison with airport operators and assist in expediting installation of improved airport facilities. We have thus been able to improve communication to the point where we receive constant requests for information from airport executives for the pilot's views on terminal facility requirements. *Our conclusion has been that financing is the major stumbling block to improvement.*

Although our airport survey is not yet complete, the information currently available provides an important yardstick of the deficiency of airport development on a nation-wide basis, and the extent of remedial action required to improve our terminal facilities to the desired standard.

We have attached for general information, as Appendix C,* a copy of the statistics currently available. These statistics are based on reports from 257 airport survey forms, tabulated and analyzed as of January 1, 1961. It is interesting to note the similarity between our findings and a report recently issued by the Airport Operators Council and the National Association of State Aviation Officials. This report indicates almost one-half of our publicly owned airports *need immediate improvement* or expansion. Cost estimate was 1.1 billion for the next four years. Under the matching funds formula, it would be necessary that one-half this amount is appropriated by the federal government. The FAA in their 1961 National Airport Plan estimates 1.1 billion dollars will be needed in the next 5 years.

The Association's study, which did

*Appendix C appeared in the February/March, 1961 issue of this publication and has been omitted here. (Editor)

include needed new airport development, indicates that an amount of money approximating one-hundred million dollars must be appropriated by the federal government each year for the next five-year period in order to provide adequate airport facilities for our present aircraft.

We are pleased to see that the House Bill HR 6580 proposed at least 75 million dollars Federal Aid per year for five years for all United States airports.

A review of federal aid to airport appropriations and expenditures for the last ten years shows that the average federal aid to airports over the past ten years has been at a rate of 28½ million per year. This is approximately 10% of the total projected cost of Dulles Airport. Contrast this with $3.223 billions* spent last year in the federal aid to highways program and the firm assurance given for billions of dollars ($26.6 billion spread over the fiscal years 1957-69)* to build future federal highways.

We can complete "3,589 Miles of Four-Lane Highway and 184 Miles of Six Lanes or More"* (the equivalent of 71,336 miles of single lane construction) per year but it requires practically a national emergency to secure another 1,000 feet of concrete for an airport runway. When we can have a 4 billion dollar road building program, 90% federally financed, a 75 million dollar or more airport aid bill is certainly not unreasonable.

In addition to the foregoing specific financial requirements with respect to improving airports themselves, we have the additional matter of providing navigation, communication and terminal area landing aids, the need for which was so graphically described by the 1960 accident record.

Some people have a tendency to be complacent about this very serious problem; probably because appropriations in recent years have been substantially in excess of those for years past. We believe this is a very dangerous view. While appropriations in recent years have been of substantial improvement, we ask that you examine the record for the past ten years and it will not be difficult to understand why we have fallen so far behind.

A review of the appropriations and expenditures for the establishment of air navigation facilities for the years 1950 through 1959, shows that the average expenditure for the establishment of air navigation facilities over the past ten years has been 27 million dollars per year. In our view, this demonstrates shocking neglect when you consider that the federal government has assumed the entire responsibility in this area and that 75 per cent (from March, 1959, *Le Monde Economique*) of the total revenue passenger miles flown in the entire world are flown by U. S. air carriers.

The current Administrator recognized that aviation has been neglected. When being sworn in for his job, he supplied the Congress with the following:

> "We as a nation neglected the national aviation system until very recently.
>
> "We did not give it the tax money that was needed, and we are just about now reaping the detriment of neglect."

Mr. Halaby is cognizant that we must catch up. Mr. Halaby further stated that if we had spent more money for aviation needs ten years ago we would not have to spend so much now. Obviously, this also holds true for the next ten years as far as costs are concerned. In our view, expediting installation of airport facilities and terminal area facilities is an investment in the future that will save money as well as improve safety and efficiency.

*U. S. Department of Commerce—*Highway Progress,* 1959.

NATIONAL AIRPORT SURVEY

(July 1, 1961 to June 30, 1965)

Conducted jointly by Airport Operators Council American Association of Airport Executives
National Association of State Aviation Officials

STATES	Publicly Owned Airports	Airports Reporting Projects Planned	Cost of Projects Planned	Funds Available and Anticipated from Local and State Sources	Additional Funds Needed
ALABAMA	53	3	$ 4,540,000	$ 2,105,150	$ 2,434,850
ALASKA	256	118	27,594,500	11,174,750	16,419,750
ARIZONA	101	22	24,882,823	14,814,248	10,068,575
ARKANSAS	55	10	1,224,400	723,200	501,200
CALIFORNIA	213	64	122,739,771	77,344,653	45,395,118
COLORADO	58	8	18,959,723	11,821,307	7,138,416
CONNECTICUT	7	12	18,345,400	9,791,750	8,553,650
DELAWARE	3	1	730,400	338,000	392,400
FLORIDA	95	30	85,443,944	28,941,441	56,502,503
GEORGIA	52	7	59,150,600	29,754,600	29,396,000
HAWAII	13	8	25,197,200	12,598,600	12,598,600
IDAHO	135	15	2,558,777	1,412,633	1,146,144
ILLINOIS	56	58	47,363,600	20,371,300	26,992,300
INDIANA	105	17	8,667,295	4,454,215	4,213,080
IOWA	83	22	10,547,677	6,009,177	4,538,500
KANSAS	99	10	5,446,800	1,197,950	4,248,850
KENTUCKY	31	38	30,356,725	16,600,375	13,756,350
LOUISIANA	41	10	28,172,400	14,149,700	14,022,700
MAINE	29	19	6,245,319	3,513,744	2,731,575
MARYLAND	11	8	19,360,100	10,425,121	8,934,979
MASSACHUSETTS	24	40	38,024,400	22,283,950	15,740,450
MICHIGAN	125	90	84,629,646	53,835,848	30,793,798
MINNESOTA	103	51	14,472,510	9,134,391	5,338,119
MISSISSIPPI	44	63	13,843,600	7,151,000	6,692,600
MISSOURI	81	8	1,732,225	891,600	840.625
MONTANA	103	57	8,694,750	6,260,937	2,433,813
NEBRASKA	96	29	7,987,998	5,494,546	2,493,452
NEVADA	15	5	8,049,080	6,197,290	1,851,790
NEW HAMPSHIRE	16	8	2,514,314	1,296,250	1,218,064
NEW JERSEY	30	2	40,580,000	25,849,250	14,730,750
NEW MEXICO	36	8	5,881,300	693,524	5,187,776
NEW YORK	46	17	88,432,550	42,904,695	45,527,855
NORTH CAROLINA	59	3	5,280,700	2,669,000	2,611,700
NORTH DAKOTA	112	27	4,853,400	2,745,600	2,107,800
OHIO	182	10	24,501,650	11,672,300	12,829,350
OKLAHOMA	74	9	13,967,000	7,744,186	6,222,814
OREGON	90	12	4,584,682	2,560,205	2,024,477
PENNSYLVANIA	165	26	37,526,555	25,843,853	11,682,702
RHODE ISLAND	5	5	5,813,470	3,257,720	2,555,750
SOUTH CAROLINA	55	20	17,982,420	7,716,000	10,266,420
SOUTH DAKOTA	57	28	4,244,995	2,173,295	2,071,700
TENNESSEE	63	62	37,577,673	21,454,500	16,123,173
TEXAS	227	113	49,722,784	12,379,061	37,343,723
UTAH	46	40	4,352,522	900,450	3,452,072
VERMONT	20	22	3,199,000	1,600,500	1,598,500
VIRGINIA	31	11	5,153,607	2,626,000	2,527,607
WASHINGTON	80	10	13,852,400	7,312,818	6,539,582
WEST VIRGINIA	42	8	6,403,300	3,545,066	2,858,234
WISCONSIN	72	43	13,124,900	6,984,675	6,140,225
WYOMING	36	31	1,898,550	1,027,300	871,250
TOTAL ALL STATES	3631	1338	$1,116,409,435	$583,747,724	$532,661,711
TOTAL PUERTO RICO	15	23	8,635,000	4,317,500	4,317,500
U.S. TOTAL	3646	1361	$1,125,044,435	$588,065,224	$536,979,211

The rising costs of operating today's passenger air liners

$100 per hour (1945)

$200 to $400 per hour

$1,000 per hour (1961)

Douglas Aircraft Photos

Terminal area economics

Fifteen years ago, in the days of the DC-3, a cancelled, delayed or diverted flight affected at most only 21 passengers. The cost of operating this aircraft was about $100/hr., and the financial risk of a diverted or recalled flight was not too great. This held true to a lesser degree for larger four engine aircraft with 50 to 80 passengers. However, the operating charges of $200 to $400/hr. of these larger aircraft were making it very unattractive to accept these financial odds. The airlines were becoming more selective in their dispatch risks.

With the jet, the industry cannot continue to countenance the expense of operating an aircraft at around $1,000/hr. to a doubtful destination and then pay ground transportation, meal and perhaps hotel costs for 100 or more passengers. On the other hand, a carrier cannot afford to turn passengers over to other airlines. The answer to this quandry is the provision of terminal area airport aids so that a greater percentage of flights are completed.

A summation of the cancelled, delayed and diverted over-all operational costs on individual air lines are not presently available; however, further along in this paper we have made some estimates based on what we consider are reasonable assumptions.

The present weather minimums at most hub airports require a 200 foot ceiling and ½ mile visibility for reciprocating aircraft; some terminals like Chicago/Midway, the world's busiest airport, still have 300-¾ minimums. The present jet aircraft (ILS) Instrument Landing System minimums everywhere are 300-¾. The minimums are 400-1 or higher at many low density airports used by local service carriers.

At Newark, reciprocating engine aircraft are now using "Runway Visual Range" (RVR) minimums of 2,000 feet. At the 16 other locations where RVR is installed, the minimums are 2,600 feet. RVR facilities can and do reduce weather cancellations. These fine facilities are only now beginning to be more widely installed.

In attempting to fairly assess the costs of various delays we have noted a table published in the May, 1960 issue of *AIRLIFT* on page 96. This table assesses the causes of delays in their order of importance by 10 large carriers as follows:

Weather is listed by *seven* of the ten carriers as their first or second choice for the most predominant cause of delays. Airport and air traffic control (ATC) congestion are listed as first or second choice by five carriers. These are all delays associated with weather. All could be improved by the use of modern terminal area facilities. We, therefore, feel justified in estimating at least 50 per cent of the delays or cancellations are due to adverse weather conditions.

Cost of cancelling flights

The total mileage flown (domestic and international) in 1960 was 995,900,000 miles. Of this total mileage 31,518,000 miles or 3.2 per cent were cancelled due to various reasons. Based on our analysis of the table previously mentioned and on the following data and computations we have estimated that 1.6 per cent or 15,759,000 miles were cancelled due to weather.

Mileage	Domestic Opns.	Int'l Opns.	Total
Scheduled	834,602,000	161,298,000	995,900,000
Scheduled Completed	807,496,000	156,886,000	.....
Cancelled Mileage	27,106,000	4,412,000	31,518,000

Cancelled mileage divided by total mileage $\frac{31,518,000}{995,900,000}$ = 3.2% of the total mileage flown

Assumed that 50% of mileage cancelled is due to weather, this is equal to 1.6% which represents 15,759,000 cancelled miles.
(Based on CAB statistics for 1960)

Our staff has estimated that the average direct operating cost for all U. S. air carrier aircraft in use was 134 cents a mile. At 134 cents per airplane mile, the 15,759,000 airplane miles of operation calculated to be lost due to weather would cost the carriers $21,117,060

HOW TRUNKS LOOK AT DELAYS — source: AIRLIFT, May 1960

Weather and congested ramp operations were the biggest factors in delayed flights for the major trunk airlines during 1959.

Three carriers named weather their No. 1 cause and another trio labeled it No. 2. Here's how 10 carriers classify their top five causes of delays:

Airline	1	2	3	4	5
Braniff	Mech.	Connections	Eqpt.	Weather	Multiple Opns.
Continental	Passengers	Cargo	Connections	Mech.	Weather
Eastern	ATC/Airp. Cong.	Weather	Mech.	.....	.....
Northeast	Weather	ATC Holds	Airp. Cong.	Mech.	.....
Northwest	Weather	ATC	Accom. Load & Conn.	Gr. Servs.	Line Maintenance
Pan Am	Mech.	Weather	Gr. Opns.	Late Pass.	Airp. Cong. & ATC
Riddle	Eqpt.	Weather	Cargo Handl.	Mech.	Crew
Slick	Weather	Mech.	ATC	.....	.....
TWA	Loading	Mech.	Weather	Pass.	ATC
United	Stat. Serv.	Opn. Plan	Eqpt.	Mech.	Cargo Loading

in total direct operating expenses. This is, we believe, a very conservative estimated loss considering fixed costs of operations and other increased costs due to lower aircraft utilization, misplaced aircraft requiring ferry flights, reduced payloads after cancellations, increased passenger handling costs, etc.

Cost of traffic, weather delays

Flights delayed or diverted are not included in the cancellation statistics. These also present a severe monetary penalty to the carriers. One measure of this factor is the "On-time" (within 15 minutes) experience of the domestic air carriers.

AIRLIFT, May, 1960, on page 81 shows delay figures for 8 months, May-December of 1959 which we believe is representative for 1960. These figures show an *"On-time"* figure of about 69 per cent. Thirty-one per cent of the trips were delayed more than 15 minutes. Sixteen per cent were delayed over 30 minutes. This is an additional important economic factor.

We would estimate that approximately half of these delayed arrivals or 15 per cent of the flights are affected by weather or ATC delays. Fifteen per cent of the total number of trips (3,834,541 domestic and international) is approximately 575,181 delayed trips per year, due to ATC and weather. Assuming the average delay is ½ hour at $340/hr. (DC-6 cost), the cost due to this delay factor would be $97,780,770 per year. Figuring the average delay as ¼ hour the cost of the delay factor would amount to $48,890,385 per year.

The Total Cost Effect of Lack of Facilities

(1) Estimated Losses due to Canceled Mileage	$21,117,060
(2) Estimated Losses due to Delayed Flights (15 min.)	48,890,385
(3) Estimated Reduction in Accident Losses with Improved Airport and Approach Facilities	*3,791,000
	$73,798,445

Economics of all-weather landings

The FAA recently accepted a report prepared by United Research, Inc., covering 1957 operations which uses a more sophisticated and detailed method for determining the economic value of an all-weather landing system. The objectives of this United Research Report are as follows:

(1) Analyze economic benefits of ATC and airport facility improvements to civil users of the airways, and measure the effect of these improvements in dollar terms on the demand for and cost of air line passenger transportation.

(2) Measure the effect of improvements on the cost of general aviation transport including value of passenger time.

(3) Measure the annual cost of the accidents (loss of property and life) preventable by the improvement.

The analysis of the United Research survey resulted in the following values being placed on an all-weather landing system:

"(1) Additional demand leading to increased revenues to air carriers	$11,500,000
"(2) Cost savings to air carriers	9,379,000
"(3) Cost saving to general aviation	292,000
"(4) Value of accidents prevented	3,791,000
	$24,962,000"

During the winter months of each year, the unreliability of air travel is typically greater than the unreliability in the summer months. For purposes of analysis, the percentage of scheduled miles not completed is used as the measure of schedule unreliability. Characteristically, during periods when air services experience greatest unreliability, the per cent of first class travelers (users of air and first class rail services) who travel by air declines.

There are three principle types of economic benefits associated with ATC and airport approach facility improvements. They are:

(1) Improvement in capacity of the system results in an increased demand for its use, thereby creating greater revenue to compensate for the cost of improvement.

(2) Improvements in efficiency and reliability results in lower per unit cost to the users which will result in the ability to pay for the improvements.

(3) Benefits from improvements in the margin of safety reduces accidents thereby reducing the premature and costly loss or damage to life and property.

All the above compound each other and tend to increase the over-all benefits by further increasing the level of safety and efficiency of traffic facilities.

They point to the need for greater schedule reliability as the key to increased demand for air travel.

To show how conservatively the United Research Report 25 million dollar cost was computed, we cite the following cost allowances used in their report:

▶ One hour delay is calculated as $170 (average operating cost of airplane in 1957; for 1961 this figure, we believe, would be closer to $340).

▶ Cancellation estimated as $24 short haul; $86 short haul trunk; $326 long haul trunk (these are all lower than the cost of operating a large four engine aircraft for one hour).

▶ A diversion is assumed by a four engine aircraft to cost $691 made up of one hour delays at $210), ½ hour ferry trip, result in one long haul cancellation and trip expense equal to twice a cancellation.

The above figures for 1957 are all lower than today's figures based on increased costs and increased size of aircraft with higher operating costs.

Need facilities for safety

Much can be done TODAY to reduce weather and traffic delays referred to in the previous pages. *We do not need to wait for new equipment to be developed.*

Of the 569 airports serviced by domestic airlines, 95 per cent of the passengers arrive or depart from 165. These 165 also produce 98 per cent of the cargo and 97 per cent of the mail. These 165 airports handle 80 per cent of the airline takeoffs and landings.

Of these 165 airports, 100 per cent are equipped with tower and ILS, 76 per cent equipped with centerline approach light systems of which 52 per cent have sequenced flashing lights, and 51 per cent are equipped with airport surveillance radar (ASR) or radar ap-

Cancelled flights create problems

U.P.I. Photo

* Estimated savings from improved safety facilities as figured for 1957 from the United Research Report further explained later in this paper.

proach control (RAPCONS). This is a good start but does not provide some presently available facilities at more than 50 per cent of the higher density airports. Table D shows the estimated cost of additional facilities required to modernize the facilities at 165 hub-type airports; and also to provide non-hub-type airports with minimum approach facilities.

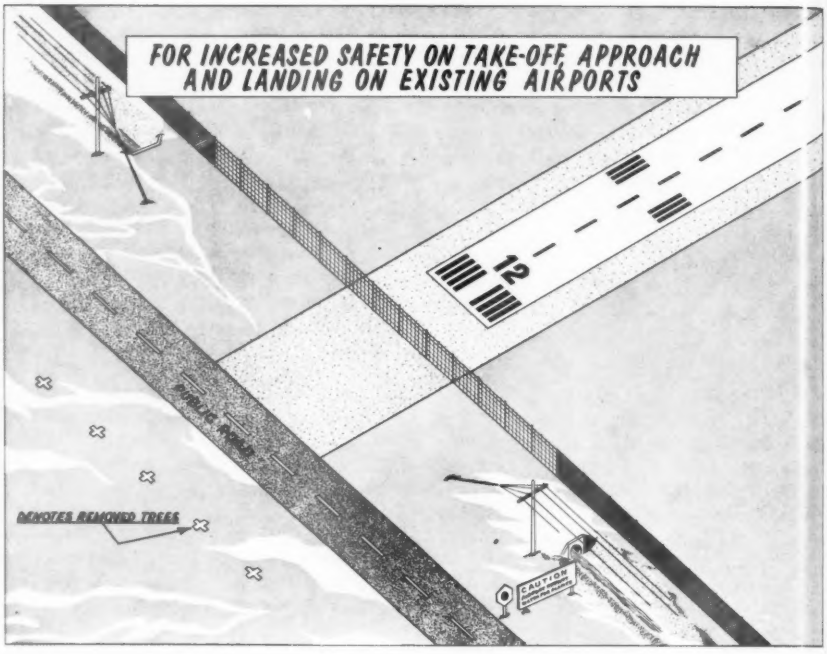
There are additional facilities which can profitably be installed at higher traffic density locations to further reduce weather delays. They are:

(1) *Runway Visual Range Equipment:* Present RVR installations are at 17 locations and 31 more are planned by the end of 1961. Average cost of RVR equipment is $15,000. Runway visual range equipped airports provide the lowest minimums with today's standard facilities. Improvements in on-time arrivals will become increasingly apparent when this RVR equipment is more universally installed.

RVR visibility measuring equipment installed on the runway with remote reading in the tower provides visibility minimums of 2,600 ft. (with 200 ft. runway light spacing) and 2,000 ft. (with 100 ft. runway light spacing) with the following equipment installed.

(a) ILS (191 presently installed—250 programmed through 1961)
(b) Two compass locators
(c) High intensity runway lights
(d) TSO N10 (a) Runway Marking (at about 20 per cent of 569 airports)
(e) TSO N24 Approach Lighting with condenser discharge lighting (86 presently installed, 174 programmed through 1961)

(2) *Narrow Gauge (flush) Runway Lighting:* gives direction and roll guidance and flare control with restricted visibility. This type of equipment is in the final stages of developwent. Idlewild Airport did not wait for criteria and now has narrow gauge runway lighting in its new instrument runway. It is expected that such lighting will be part of the requirements prior to considering reducing minimum below present RVR standards. Such equipment will not only increase the efficient use of a runway, but will also increase the level of safety. Flush lighting has been designed that can be installed in existing runways. With the combination of available criteria and a practical way to install flush lighting in existing runways, the way is open to modernize runways at a relatively moderate cost to take advantage of the economic benefits of this latest development at high density airports.



(3) *Centerline Flush Runway Lighting:* This is a vitally needed part of "all-weather" runway lighting for landing roll as well as takeoff. The criteria for this development is now in its final phases of completion. It is anticipated that this equipment will be normally a companion installation with narrow gauge flush runway lighting and is expected to be a vital part of all-weather runway equipment and yield economic benefits.

(4) *Flush approach lighting extending into the paved underrun area:* In the past a number of TSO N24 centerline approach light systems have not been fully installed because of a lack of standards for a flush approach lighting fixture. *Now* these standards are available and should be added to the existing systems in the underrun area within 1,000 ft. of the runway threshold or any time approach lighting is in the usable overrun or underrun area of a runway. Such installations will add materially to the safety of operations by reducing the possibility of an accident due to touchdown prior to contacting the runway. In some cases, flush

(Continued on Page 11, Col. 1)

New visual glide slope indicator can be seen 15 miles

Sylvania Electric Photo

A new "aerial traffic light" that accurately guides pilots to the theoretical glide slope of a runway is being produced by Sylvania Electric Products Inc.

Sylvania's Visual Glide Slope Indicator provides an accurately illuminated corridor that is visible upwards to 15 miles at night and five miles during the day. Attitude, position and course can be continuously checked during the final stages of approach right down to the point of flareout

(Other data on this visual glide slope indicator appeared in the March 27, 1961, issue of ALPA's "Tech Talk.")

Congressmen backing airport aid legislation

U.P.I. Photo

A. S. Mike Monroney

Oren Harris

Rep. Oren Harris (D.-Ark) has introduced in the House, bill H.R. 6580 for proposed federal aid to airports and Sen. A. S. (Mike) Monroney (D.-Okla.) has sponsored a similar bill—S. 1703—in the Senate. ALPA's stand on airport aid, which is contained in this article, was made before the House Interstate and Foreign Commerce Committee on May 11, 1961.

approach lighting on paved surfaces would add to the takeoff runway length and thereby increase the allowable useful load.

(5) *Lower activity airports:* must be included in the installation of improved approach facilities to assure a balance of over-all system capacity. Presently, many low activity airports have nothing but a radio beacon for instrument approaches. ALPA's Airport Survey indicates that this is the extent of the instrument approach facilities now installed at one-third of our airline airports. We believe that minimum equipment for low density airports should consist of a TVOR ($100,000), TSO N10(a) Runway Marking ($1-5,000), Runway End Identifier Lights ($2-3,000), Visual Glide Slope Lights ($1,500) and Control Tower ($60,000.)

There are presently 725 VOR stations in operation in the United States. Approximately one-half of these are enroute aids only and not associated with an approach to an airport.

There are a very limited number of runway identifier lights installed. ALPA's survey indicates only about 2 per cent of the airports have them. Very few are being programmed. Most of these are at airports where ILS and approach lights are on another runway.

The visual glide slope lights (that give a visual angle of approach indication to the pilot), have just been approved for use and the first two are scheduled to be installed at LaGuardia. The FAA has budgeted only 40 for fiscal year 1962, and most of these will probably go on "noise sensitive" runways at high density airports. Until this standard can be financed and installed by the FAA, we recommend consideration of a "poor man's" glide installation called POMOLA. This can be installed for daylight use for a very few dollars. Financing should not be a problem (under $100).

The growth of aviation in the last 15 years has shown that low density airports have rapidly increased in traffic *as increased facilities and services became available.* It, therefore, seems imperative to us that these recommended low cost approach aids be installed at all local service terminals at the earliest possible time to improve schedule reliability and the flow of traffic to and from these smaller airports.

Summary

The economic losses due to weather and ATC delays, cancellation of flights and diverted aircraft in one year is a is a sizable figure — United Research says $24,962,000 for 1957. We calculate at least $73,798,445 for 1960.

We feel that a major portion of this money can be saved by installing proven landing aids and airport safety standards—*now*. These aids and standards are referred to in Attachment D and cost as follows:

For 165 High Density Locations	$41,050,000
For 404 Low Density Locations	$42,862,000
	$83,912,000

The above costs do not include many additional parts of the over-all air traffic control system which requires additional capital, such as Traffic Control Centers and their equipment, research and development, etc., to handle the ever-increasing amount of air traffic.

TABLE "D"

Conservative Cost Estimates To Establish 100% Major Electronic Aids Available Today At 165 Hub Type Airports

Towers	100% complete			
ILS	100% complete			
Runway Visual Range	150	@	$ 15,000	$ 2,250,000
Approach Light System	40	@	$100,000	4,000,000
Sequenced Flashing Lights	85	@	$ 40,000	3,200,000
Airport Surveillance Radar	84	@	$400,000	31,600,000
Total required for above new aids				$41,050,000

Conservative Cost Estimates To Establish Lesser Electronic Aids At 404 Less Dense Non-Hub Type Airports*

Towers	344	@	$ 60,000	$20,640,000
VOR or TVOR	200	@	100,000	20,000,000
TSO N10(a) Marking	404	@	1,000	404,000
Runway Identifier Lights	404	@	3,000	1,212,000
Visual Glide Slope Indicators	404	@	$ 1,500	606,000
Total facility cost for above new aids				$42,862,000

(* Some of these airports will be classified as hub airports as traffic increases)

To complete the picture at least $1.1 billion in airport facilities like runway extensions, taxiways, terminals, etc., will be needed in the next five years.

Obtaining funds for the above planned and proposed improvements is one of aviation's major problems today but, in our opinion, we must keep the problem in its over-all perspective from the national interest standpoint.

Commercial air transportation has become the leading means of intercity travel today. It is also the dominant means of international travel. Business, government, and our citizenry generally are rapidly gearing their lives to this rapid means of transportation. This trend is accelerating. Seventy-five per cent of the total air transportation of the world is flown in the aircraft of U. S. carriers and by U. S. citizens. Deficiencies, delays and marginal safety standards in air transportation today affect our entire economy. It is imperative to the total national interest that we accelerate our efforts to keep our airways and airport system abreast of technological development of the aircraft and its use in our total national picture.

The federal government must be an active participant in the development of our airports and their related terminal area and airway facilities. Unlike the situation in other means of transportation, the federal government has assumed the primary responsibility for the development and operation of the

(Continued on page 23)

Jim Harper — air line pilot: the stockholders carry a picket sign

The story of Jim Harper is typical of the story of all regular Southern Airways pilots now on strike. This story puts the situation into proper perspective.

THERE wasn't even an airport in town. He'd hardly seen a plane on the ground. But the teen-age boy on the small Alabama farm was coming of age with his dream. In his time Charles Lindberg had spanned the Atlantic, solo, in a single-engine Ryan monoplane; Lincoln Ellsworth had piloted his Northrup Gamma across the South Pole; Richard E. Byrd had done as much on the top side in a Tin Goose Ford tri-motor; and Wacos and Curtiss Robins were getting the mail from New York to the West Coast in less than three days—sometimes. They were saying that any landing you could walk away from was a good landing. And a man wearing white scarf, goggles and helmet could cadge free breakfast in any small-town restaurant because *he was one of those!* A pilot.

It was an age of space, those days of the '20s and '30s; not so high as the moon, but just as significant; and Alan Shepard probably never will be the household god that Charles Lindbergh became.

Corny today? Perhaps. But no single scientific venture ever has frenzied the American imagination as did the early days of commercial aviation. They laugh today at the goggled dandies you sometimes see posturing around the airports, but few pilots older than 35 can say in all honesty, that they weren't driven by the universal dream of those earlier days: becoming an airplane pilot, complete with scarf and helmet.

Jim Harper—the farm boy from Cullman, Ala.; the boy who'd seen only a few airplanes on the ground, was no exception. In 1940 he joined the Army Air Force. Fifteen years later, he was a captain on a scheduled airline. Twenty years later, he became a labor leader, prosecuting a strike against a company of which he is part owner.

It is a story uniquely American: the maturing of a dream; the maturing of the aviation industry from haphazard glamor to solid public service and efficiency; and the people who brought that maturity to fruition. And in the case of Southern Airways— the decline of a service organization when the mature hands which had created it were removed, to be substituted by strike-breakers.

Jim Harper is chairman of Air Line Pilots Association, Council 74. He is captain for Southern Airways, but on strike. He joined Southern about the time of the Airline's first scheduled flight.

"It was real shoestring in those days," he said. "We'd take company scrip in lieu of money for part of our wages. You know, the real old country-store deal. On our off-days, we'd all load into an empty airplane and 'blitz' a town.

"By that, I mean, we'd move into a community and try to sell Southern Airways. We'd talk to the business people, the mayor; and we'd try to get radio and TV time to exploit the advantage of air carrier service to the city. And we did it for free—on our own time."

We were sitting around the Control Point, as they called the ALPA strike headquarters, out at Holiday Inn on Lamar. Jim Harper was lounging in his chair in a corner of the room, drawing on a pipe that wouldn't stay lighted. His phone rang at five-minute intervals or less, and between signing vouchers, hearing the plight of pilots who haven't flown a payload in almost a year, and explaining ALPA policy on a dozen issues, to sundry visitors, he gave us our story. Jim is one of those odd individuals who can carry 14 unrelated ideas in his mind at one time, sort and assimilate them, translate them into action and never lose the basic train of thought behind the biggest chore of the moment. In this instance, it was explaining to a reporter the strange series of events that made him driver in a strike against a company he had helped mold with his own hands.

"We built that airline from not much more than a surplus C-47 and a second-handed typewriter, into a valuable local service carrier. We put our guts into Southern Airways, and we believe in the future of Southern.

"It's not the Airline we're fighting; it's Southern's management."

Memphis Union News Photo

"The pilots built Southern with their dedication; management is destroying it with their greed."

Until the Southern strike, people in the labor movement seldom thought of airline pilots as union men. ALPA was known of course, but by and large, it was equated with professional societies, such as the medical, dental and bar associations. Jim Harper has never—pre- or post-strike—drawn any distinctive line between ALPA and, say the Typographical Union. "We are committed to the labor movement," Jim said, "perhaps more definitely than you, or a plumber, or a carpenter.

"And here's why. We have to have representation; grievance procedure. In the performance of our jobs we are controlled by the Federal Aviation Agency and their multifold, complex regulations. And also, we are controlled by the regulations and policies of our employing company. It is possible, and it happens, that these two sets of regulations conflict. I recall a time during extremely adverse weather conditions and icing, a pilot was forced to make

By CHARLES OVERHOLT

Re-printed from the May, 1961, issue of the Memphis (Tenn.) Union News.

a unscheduled landing, for the safety of his passengers. The Company had no quarrel with this decision; but insisted that the pilot ferry the aircraft to another city, placing it available for other service.

"Now, ALPA believes that weather unsafe for passengers is also unsafe for pilots. The pilot refused to take-off in the sub-marginal weather, and was threatened with discipline from the Company.

"The Union got the pilot off the hook. Incidentally, had the pilot gone on with the ferry assignment, in compliance with Company orders, he would have been in trouble with the FAA."

Jim stoked his pipe once more. "The union works the other way, too. It provides an additional margin of safety for the passengers, and the economical operation of the company's equipment. And that is ALPA's Physical and Professional Standards."

We were loaned a copy of the ALPA policy manual, containing these standards of ethics, and found for example: *He will keep uppermost* in his mind the safety, comfort and well-being of the passengers; *he will remember* that a full month's salary demands a full and fair month's work; *he will at all times deliver* his maximum efficiency to the end that the aircraft given him to command will be operated, insofar as it is within his power, safely and efficiently.

"It is particularly unfortunate," Jim Harper said, "that the passengers who now patronize Southern Airways, do not have the protection once afforded them by ALPA's ethical standards. The strikebreaking pilots have no written code of professionalism; they are answerable only to themselves, the FAA and the Company. And in the Company's confused program of training strikebreakers, it seems that Southern's own standards of proficiency have been lowered and, in some cases totally discarded.

"ALPA is waiting, patiently, for the FAA finally to process all the complaints filed with that agency against the pilot errors of the strikebreakers."

Jim asked, "Do you realize that I, and many of Southern's veteran pilots own stock in the Company? It's a fact, that a 'substantial' bloc of the Southern common stock is owned by striking Southern pilots.

"Do you understand, now, that we struck only as a last resort? Not only, in those early days, did we invest our free time, our loyalty and our total skill in Southern; we invested our savings! If Southern's management only had been willing to arbitrate the sole remaining issue of seniority, we would be flying today, making Southern a paying operation instead of a sponge off the government."

Captain James Talmadge Harper was born on October 27, 1920, at Cullman, Ala. His father was a farmer and machinist. When he had been in the Air Force for a while, back in 1940, he decided to try for Cadets. He was stationed at Portland, Ore., and he remembers "washouts in those days were 60 per cent." He was transferred to preflight school at Santa Ana, Calif., and he soloed at Santa Maria, Calif. "It was a Stearman airplane," Jim recalled, "and I soloed in eight hours and 34 minutes." Jim graduated from Cadets at Williams Air Force Base, Arizona, where he flew the AT-17 and the Curtiss AT-9. After getting his wings, he was assigned to Bergstrom Field, at Austin, Texas, for transition to the C-47, and assigned to Lawson Field, Fort Benning, Ga.

For overseas duty, he ferried his C-47 to Brisbane, Australia, and spent most of World War II in the Southwest Pacific, in the New Guinea, Rabaul, Buna, Gona, Port Moresby, Milne Bay, areas. And he flew in and out of Leyte after the invasion of the Central Philippines.

After a 16-month tour of duty in the Pacific, Jim Harper was returned to the States, and after the European war ended, he flew deployment missions of returning troops.

"I remember my last military flight quite well," Jim said. "It was a 'mercy flight' of sorts. A Negro pilot had spun-in from 6,000 feet and survived. I flew him to the Naval Base Hospital in Atlanta, from Tuskeegee, Ala."

Jim stayed with aviation right into civilian life. He instructed, as chief pilot, at a Klamath Falls, Ore., flying school. He joined Southern Airways on June 27, 1949.

Captain Harper is married to the former Betty Lou Gerke of Portland, Ore., and they have two boys, Douglas, 16, and Gary, 14. Their home is at 1244 Mayhill Drive, in Whitehaven.

Quiet, confident, a man you can't stampede until his own good judgment tells him to move; that's Jim Harper. He is proud of ALPA and proud of his profession as an airline pilot, but never in the boasting sense. It's something you feel, rather than hear from him.

He carries this quiet confidence into the cockpit, too. A pilot's pilot, they say. He has 14,000 hours' flying time, and never has damaged a passenger or an airplane.

"My motto is the motto of ALPA," Captain Harper says. "Schedule with safety."

How long will your strike against Southern continue? we asked.

"However long it requires to win back our two front seats," he says, with a slow grin. "ALPA on the national level, and ALPA in Memphis is totally committed to win. There will be no capitulation on any condition."

Jim Harper is obviously not a capitulating man, and that's what wins strikes.

ALPA members attend Fire Protection meeting

Members of the ALPA Ground Fire Control Committee were present at the 65th Annual Convention of the National Fire Protection Association held in Detroit, May 15-20. (Seated, left) William Collier, PAA, chairman, Ground Fire Committee; F. V. Hewes, DAL, vice-chairman. Standing (left) Ron MacDonald, TCA (Canadian ALPA); Don Heine and Wendy Howell, NOR.

THE FEDERAL AIRPORT PROGRAM SHOULD BE EXPANDED

THE federal program which provides assistance to communities in the development of a national system of airports will expire June 30, 1961, unless the Federal Airport Act is extended by Congress.

Over $1 billion of airport development is needed in the next four years to

- *Assure that airport capacity will keep pace with growth of air transportation*
- *Assure that adequate airports will be available to support air transportation's contribution to the national economy*
- *Assure that airports will be available for training and logistics of the civil defense and military establishments and as standby bases in time of war.*

The phenomenal growth of air transportation since 1946 (airplane movements and airplane passenger miles have increased fivefold) has made it practically impossible for airports to expand fast enough to keep pace; and the increasingly important role air transportation is playing in the trade and commerce of the nation in addition to its defense, makes it urgent that the national system of airports continue to be greatly expanded and improved.

The communities which have made possible the airports we have today stand ready to do their share in this huge undertaking. But because of the vital national interest in the airports, and because communities cannot finance these large capital construction costs alone, the Congress should continue at an accelerated rate federal technical and financial assistance that is now provided under the F. A. Act

The original Federal Airport Act (Public Law 377, 79th Congress, ap-

ed May 13, 1946) authorized a grant-in-aid program to assist public agencies in the development of a nationwide system of public airports adequate to meet the needs of civil aeronautics. This was a further recognition by the Federal Government that publicly owned and operated airports must keep pace with aircraft and airways development.

Unfortunately, during the early years of the program appropriations were made in varying amounts annually, thus requiring operation of the program on a year-to-year basis. While substantial progress was made in the development of public airports on this basis, the lack of stability in the program (no appropriations one year, very small ones several other years) prevented communities from making reliable financial plans and the program was therefore not as effective as it might have been.

However, in 1955 the basic Act was amended to authorize the obligation of definite amounts for Federal participation in airport development for a four-year period i.e., the fiscal years 1956, 1957, 1958, and 1959. The advantage of this amendment was that it enabled communities to prepare longer-range plans for more stable and orderly airport development under the Federal Aid Airport Program. By permitting advance planning, the Act now provides a better opportunity for local sponsors to arrange their financing to match the availability of Federal funds. In 1959 the Act was extended for a two year period.

Bills to extend the Act beyond June 30, 1961, and to accelerate the program are currently pending before the House and Senate. These proposals have both Democratic and Republican sponsors and the support of the Kennedy Administration. The Federal-aid Airport program has always had bipartisan backing in the Congress.

A. $1 Billion of Airport Development Needed

A recent national survey shows that 1,4[illegible] airport projects are planned by U.S. communities during the next four years. Total estimated cost for land acquisition and for landing area and terminal area development planned during this four-year period is $1.1 billion. It is anticipated that $588 million of this cost will become available from State and local sources. This leaves a deficit of $537 million.

Funds to meet this deficit of $537 million will be needed as follows:

Fiscal year ending June 30, 1962	**$145,466,547**
Fiscal year ending June 30, 1963	**146,001,739**
Fiscal year ending June 30, 1964	**111,499,134**
Fiscal year ending June 30, 1965	**134,011,791**

In recognition of the national responsibility for aviation and airport development, it is essential that the 87th Congress authorize the expenditure of the necessary funds to enable the nation to meet its current airport requirements. The intent of the Federal Airport Act to make possible a national system of airports, will thus be properly discharged. The National Airport Plan requirements for 1962-1966 published in mid-April, 1961, by the Federal Aviation Agency, supports the finding of the survey referred to above.

B. Airports Must Keep Pace with the Growth of Air Transportation

The dynamic growth of air transportation in the past and the promise of such growth in the future serves as a yardstick to measure civil airport requirements.

1. Commercial Airlines

During the past 25 years, domestic airline passenger traffic has grown at a phenomenal rate. Volume reached a record-breaking 56.4 million passengers and 30.4 billion passenger miles in 1960 compared with 12.8 million passengers and 6.1 billion passenger miles in 1947.

According to a recent forecast made by the Federal Aviation Agency there will be 76.9 million passengers and 43.5 billion passenger miles by 1965 and 100 million passengers and 56 billion passenger miles by 1970.

With regard to air cargo (air express and air freight), since 1946 the volume of such traffic has more than quadrupled and totaled 583 million ton-miles in 1957. The FAA forecasts that air cargo traffic will increase to approximately 1.2 billion ton-miles by 1965 and 2 billion ton-miles by 1970.

2. General Aviation

The outstanding development in general aviation (all forms of civil flying other than the commercial airlines) in recent years has been rapid the growth in the use of the airplane for business transportation, agricultural and industrial applications, and in transportation-for-hire. The nation's general aviation fleet includes more than 68,727 active aircraft which logged more than 12,700,000 hours of flying time during 1960. This represents about 42 times the number of domestic airline aircraft and four times the number of hours flown annually by the airlines. The FAA forecasts that the general aviation fleet will have 86,500 active aircraft and annual utilization of 16 million hours by 1965.

3. Increased Air Transport Traffic Means Increased Aircraft Movements

Since the end of World War II, total airline and itinerant (general aviation and military) operations at airports with FAA control towers have increased over four-fold—from about 4,000,000 movements (or operations) in 1946 to more than 18,100,000 movements in fiscal 1960. According to the FAA forecast, there will be 20,000,000 movements in 1965. The increased volume of air transport traffic will be translated into increased air transport operations (arrival and departures). Operations of a purely local nature, such as training flights in and out of the same airport, are not included in these figures.

In his 1957 report to the President on Aviation Facilities Planning, Edward P. Curtis said, "By 1975 we must provide aviation facilities to accommodate air traffic composed essentially of the following:

"a. Air carrier traffic-increase to 150 per cent of plane movements today.

"b. Itinerant air traffic-increase to 400 per cent of today's traffic.

"This projected increase in aircraft movements means that we must do all

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that is practical to increase the capacity of existing airports and then plan ahead to provide additional airports as they are needed. . . ."

Elsewhere, the Curtis Report states: "While in 1936 there were 5 million takeoffs and landings at the nation's airports, there are now 65 million, and 115 million are forecast in 1975."

4. Jets Brought New Problems and Made More Urgent the Old

The introduction of jet aircraft into airline fleets in late 1958 represented a dramatic equipment revolution. These aircraft are big, heavy and fast. They carry as many as 180 passengers at speeds upwards of 600 mph. More than 551 jet airliners were in service on January 1, 1961, and more than 141 were on order on that date.

(a) Runways

The increased weight and speed of jet aircraft require longer and stronger runways at many airports. The length and type of runway at a particular airport depends upon a number of factors but principally upon take-off weight which is closely related to the distance to the next landing.

(b) Terminal Areas

The considerable advance in performance which jet aircraft offer adds emphasis to the need for quick and efficient handling at the terminal areas. Maximum service to the public requires that the most suitable equipment and methods be used in getting jets off the runways, unloaded, loaded and on their way again. A delay in turn-around due to inadequate ground-handling facilities could negate the advantage of reduced air time to the passengers.

(c) Jet-Age Passenger

Handling the jet-age passenger at the airport must match the speed at which he flies. No one element of the air transport system can be permitted to become a bottleneck in the system; and the terminal building facilities for handling airplanes, people, mail, and cargo constitute an essential element of this system. The greatly increased number of passengers of the developing jet age demands improved passenger and baggage flow between the terminal entrance and the airplane; improved handling of ground transportation—taxicabs, private automobiles and parking; improved ticketing and baggage-checking facilities; and improved passenger service rooms and facilities for safety, comfort and convenience. In order to take full advantage of the technological advances the jet age brings, terminal passenger-service facilities at all levels must be improved.

The Curtis Report predicted in 1957 that "while there will be a need for a two-fold increase (by 1975) in the capacity of the nation's airports, ground facilities dealing directly with passengers will require even more spectacular increases in capacity." Development of such facilities has lagged behind the increase in other aspects of airport capacity.

5. Improved Air Navigation and Traffic Control Facilities Require Improved Airports

In anticipation of the growth in air traffic that was ushered in by the jet age, the Congress established in 1957 the Airways Modernization Board. The purpose of the AMB, which has now been merged with the Federal Aviation Agency, was to encourage the development of devices and systems to assure the expeditious flow of air traffic. The Board and now the FAA have undertaken airport research projects which when completed will do much to hasten solution of many technical problems.

At the same time, the FAA has moved forward with a vigorous program to develop an airport and air navigation and traffic control system adequate to the future needs of the country. This program involves the spending of $695 million for air navigation, traffic control and communications equipment in the period 1958-62.

In recognition of the fact that an adequate system of airports is essential to the efficient utilization of improved air navigation and traffic control the Curtis Report states: "Airports are an integral part of the system of aviation facilities.

". . . The increase in over-all traffic will require a modernization of airports and an increase in their numbers. This imposes the necessity for coordinated national and local effort to insure that airports do not become a neglected element of the system, and thus a future bottleneck."

C. The Nation's Economy Requires An Adequate System of Airports

1. Airlines

The office of the stagecoach line gave way to the railroad depot in the 1800's, and the Iron Horse reigned over the field of inter-city public transportation for a century.

But in 1957 the airline industry stepped out ahead in passenger-miles, marking the end of more than 100 years of uninterrupted railroad dominance. In 1960, the domestic scheduled airlines operated more than 30 billion passenger-miles, compared to less than 17 billion for the railroads, excluding commuter-type trains. (The airlines surpassed busline volume in 1955.)

Air transportation has become such an important and necessary part of the nation's economy that no industrial community, regardless of its size, can afford to be without adequate airport facilities.

The economic impact of the jet age has been and will continue to be tremendous. Since 1958, $2.058 billion in turbine-power aircraft have been purchased. Today orders for jets represent an additional investment of about $643 million. And more aircraft will be needed to serve the passenger and air cargo volume anticipated in the years ahead.

This investment, along with the costs of day-to-day airline operations, compounds throughout the national economy. It reaches, for example, into the industries that manufacture aircraft, engines, aircraft components, ground and air-borne electronics equipment—and into the countless related industries whose goods and services are required to support the accelerating air transport industry, whether it be maintenance, operations, administration, or sales.

It is significant that, in a period of

AIR CARGO GROWTH

1957 — 583,000,000 ton-miles

1965 — 1,200,000,000 ton-miles

1970 — 2,000,000,000 ton-miles

United Air Lines Photo

general deceleration in capital expansion, the airline industry is forging ahead with the greatest capital expansion program in its history.

2. The Business Flyer

Today our airports provide a base for some 25,000 business aircraft, owned and operated by corporations and businessmen to expedite sales and production, to decrease travel hours, and to reach off-line communities.

Airports have given impetus to the post-war trend to locate plants in smaller cities, and corporate planes have become flying offices connecting the home factory with branch plants, subcontractors, and markets.

Businessmen also use charter services available at airports to reach their plants and customers in smaller cities. A chartered plane may fly a staff of five or six men half-way across the United States and make a dozen stops in fewer hours than would be required to make airline connections and take off-line surface transportation.

3. Agriculture, Fire-Fighting and Mapping

The enormous potential of aviation for agriculture is demonstrated by the fact that one acre in every six under cultivation, along with millions of acres of forest land, were seeded or treated in 1960 by aerial chemical applications. Seventy-five per cent of the nation's airports serve as bases for planes used for agricultural purposes.

From thousands of airports throughout the nation farmer operators annually fly almost 1,000,000 hours doing farm chores: spraying, seeding, dusting, surveying, checking herds and crops, inspecting fallow land, counting wild ducks, chasing birds from rice fields, shooting coyotes and fertilizing. Apples, clover, alfalfa and wheat are but a few of the diverse crops that are being produced in larger quantity and at lower cost in areas with the aid of agricultural flyers.

Airports provide a base for regular patrol to detect forest fires during prolonged dry seasons in the West. Aerial spotters operating from airports and watching from the air inform the ground crews as to wind changes and as to the direction in which a fire is spreading, and fire extinguishing materials are also dropped or sprayed from aircraft.

Mapping and surveying by air is expanding and revolutionizing these activities, saving millions of dollars each year. Aircraft engaged in this work must have airports from which to operate.

4. The Private Flyer

The airport is often school, training field, and playground for a community's private flyers. This is important to the community and the nation. More than 500,000 American men and women hold private pilot licenses. These pilots are the nucleus of the nation's reserve air strength and of the Civil Air Patrol. The private flyer also uses his airplane for travel and transportation.

5. Airports in Time of Emergencies

At no time is an airport so incalculably valuable to a community as during emergencies which no one can foresee. In recent months this value has again been demonstrated. During flood times, after tornadoes, hurricanes, or great snowfalls, towns and whole regions have depended on their airports for communication, for food, medical aid and other supplies. Missions of mercy happen so often today that they are rarely noted by the public, but to the individuals involved they have meant life itself. The airport not only permits service to the town in times of emergency but also provides a means of bringing aid to the surrounding rural areas.

Airports are required for the delivery of vaccines and serums, which lose their potency rapidly, and must therefore be flown to patients, and from community airports airplanes have flown to search for lost children, herds of cattle and sheep, and to spray to kill disease-bearing mosquitoes.

D. Airports in National Defense

Every modern civil airport in the country is also a facility for the national defense. Harmful shut-downs in essential industries are curtailed by the rapid delivery of important parts and equipment. Many civil airports are regularly used in peacetime by the military. All would be available in an emergency and all would play an important role.

1. 429 Civil Airports Go Military

The value of civil airports to the nation was tellingly demonstrated during World War II.

It is generally agreed by military authorities that the U. S. Government has saved many millions of dollars by using civil airports to facilitate the swift movement of priority passengers and vital materials to the trouble spots of the world.

The records of the FAA show that, by the end of the first quarter of 1945, some 429 civil airports had been turned over to the Army and Navy in the interests of national defense. In addition, as U. S. participation in the war expanded, the number of military operations at airports still under civil control increased. For example, between 1942 and 1944, military operations increased more than 400 per cent at civil airports with FAA control towers.

2. The Joint Use of Airports by Both Civil and Military Traffic

Today, there are hundreds of airports on which the Department of Defense has a current requirement. These military operations normally involve training, air defense and logistics. Units of the Air National Guard, Air Force, and Naval Reserves are important tenants of civil airports also.

In this connection, Former Secretary of the Air Force Finletter said: "The Air Force has been the first to recognize that there has necessarily been some strain when both expanding military and expanding civil aviation are trying to satisfy their requirements within airport structure which is not increasing in proportion to the combined needs of civil and military aviation."

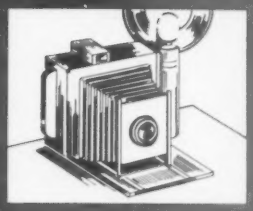
E. The National Interest Demands the Extension of the Federal Aid to Airports Program

The Executive and the Congress have by the establishment of the Federal Aid Airport Program demonstrated their understanding of the national interest in a countrywide system of civil airports. There is a continuing and accelerating need for further airport development. The Federal Airport Act must be extended and expanded in 1961 if an orderly program of local, state, and federal cooperation is to be continued.

It is now up to Congress to determine whether a stable and orderly development of the nation's airport system shall be continued.

U.P.I. Photo

FORECAST: 86,500 aircraft (excluding air liners) in 1965



The ALPA Camera

Some Highlights and Sidelights of the News and ALPA in Pictures

Sikorsky Aircraft Photo

***TWIN-TURBINE SIKORSKY S-61L** is said to be quieter, smoother, carries twice as many passengers than any helicopter presently serving a scheduled helicopter airline. Los Angeles Airways has ordered five and Chicago Helicopter Airways, four.*

U.P.I. Photo

***TWA 880** clipped 22 minutes off its scheduled flying time on the inaugural flight between Indianapolis and New York and arrived 21 minutes earlier than scheduled on the return flight. This was the first commercial jet flight at Indianapolis-Weir Cook Municipal Airport on April 30.*

***LAKE CENTRAL AIRLINES** demonstrates the prototype of a new twin-turbine Boeing Vertol 507 designed to haul 25 passengers at 150 mph.*

United Air Lines Photo

***UAL SHIPS SPARE ENGINES** in a pod under the left wing of DC-8 rather than take up space in a cargo compartment. The added weight of the 6,800 pound engine is counter-balanced by shifting the fuel load.*

American Airlines Photo

***FANJET ENGINES** viewed from an unusual perspective on AA Astrojets. Fan stages are visible inside the nacelle. AA anticipates a fuel savings up to 20 per cent or more.*

U.P.I. Photo

Special Report:

THE FEINSINGER RECOMMENDATIONS

The Presidential fact-finding commission, headed by Nathan P. Feinsinger, reported to the President, May 24, 1961. The complete text of the recommendations is reproduced here.

ON February 17, 1961, a walkout by members of the Flight Engineers International Association shut down the flight operations of seven of the nation's air carriers: Pan American, American Airlines, Trans World Airlines, Eastern Air Lines, National Airlines, The Flying Tiger Line and Western Air Lines.

On February 21, 1961, the President issued Executive Order No. 10921 establishing a Commission to look into the controversy which led to the walkout of the flight engineers. The Commission was composed of Chairman Nathan P. Feinsinger, Richard A. Lester and J. Keith Mann.

On May 24, 1961, the three-man commission submitted its report to the President and made its recommendations based upon its investigation of the issues. The report contains the background to the controversy, the present positions of ALPA, the FEIA, the FAA, and the air carriers, and the observations and recommendations of the Commission which they proposed as guidelines for stimulating collective bargaining rather than replacing it.

The report consisted of 59 pages, 15 of which were devoted to recommendations.

Generally, the report laid down broad recommendations to achieve an ultimate goal of one union in the cockpit and a reduction from four man to three pilot crews on jets by a gradual phasing out and protective provisions for both pilots and flight engineers in achieving these goals.

The Commission stated: "The Commission proposes that the parties negotiate on the bases of its report and advise the Commission of their progress within thirty days, thereafter, the Commission will determine what, if any further action might be required."

Following are the complete recommendations which the Committee proposes as negotiating guidelines and objectives:

RECOMMENDATIONS

A. The Issue of Representation

The representation issue in this controversy stems from a petition by ALPA resulting in the decision of the National Mediation Board in the United case. In that proceeding, a Committee appointed by the Board held that pilots and flight engineers on United, many of whom have similar qualifications and training, constitute a single craft or class for the purpose of designating a bargaining representative under the Railway Labor Act.

The representation issue in the present controversy arises from FEIA's fear that ALPA will file additional petitions like that filed in the United case, and that the NMB will similarly order elections among all flight deck crew personnel, which ALPA will inevitably win because of the numerical preponderance of pilots over flight engineers. Aside from its interest as a union in preserving its representation rights, FEIA fears that representation of flight engineers by ALPA will result in pilot qualifications for the flight engineer, the dilution of the craft, and the eventual replacement of flight engineers by pilots. At best FEIA expects that in bargaining in behalf of flight engineers ALPA will subordinate their interests in wages and working conditions to the interests of the pilots. We believe that the underlying risk has been magnified out of all proportion.

As the Chairman of the NMB has indicated, there has been no occasion to determine whether the reasoning in the United case has application to the fact situation now existing on any of the airlines before the Commission. Moreover, the Commission has no reason to believe that ALPA is planning to file such petitons. Nevertheless the unions have sought to strengthen their respective cases by asserting divergent positions with respect to the related issue of training and qualifications. FEIA insists that the carriers must not qualify pilots as flight engineers nor require flight engineers to qualify as pilots, and that all flight engineers must possess an A & P license. The ALPA position is that the carriers must give pilots training as flight engineers, that such training is not to include an A & P license, and that if a three-man crew is used on jet aircraft its third member must possess a commercial pilot license and instrument rating and be qualified to relieve the co-pilot under routine and emergency conditions.

Each union asserts that its position is not self-serving, but designed simply to insure safe operations. There is ample reason, however, to believe that FEIA is partly motivated by a desire to fence the pilots out in order to preserve its members' jobs, the craft, and FEIA's representation rights, and that ALPA is likewise partly motivated by a desire to elbow FEIA out of its representational rights and all that implies.

This situation, in which two unions seek irreconcilable objectives and the carriers are unable to satisfy one without offending the other, is intolerable. It should be evident to the unions, which purport to base their positions on considerations of safety, that the collision of their views in itself threatens safety and efficiency and economy of operations as well. It should also be evident to them that if they continue to steer a collision course, the public will demand action much more drastic than that which the Commission proposes.

The most obvious solution to this problem is merger or some form of consolidation. In the considered opinion of the Commission, neither peace nor safety on the airlines will be fully assured as long as there are two unions in the cockpit.

The principal objection by FEIA to consolidating in any manner with ALPA is that FEIA would be submerged. By this it is meant, apparently, that the flight engineers would have no voice in bargaining over matters which directly affect their interests, in the handling of grievances, or in shaping the over-all policies of the combined group. This would depend, however, on the terms of the merger. If the proper statesmanship were demonstrated, adequate assurances against the fears expressed by FEIA could be provided.

In the same vein, FEIA has expressed the fear that once a merger or an agreement of any kind between the two unions was accomplished, ALPA could alter its terms in one way or another. It finds confirmation of its fears in a long list of ALPA "offenses," including its action in the United case and, most recently, its alleged support of Western Air Lines in allowing pilots to perform the func-

tions of the discharged flight engineers. Against this background, says FEIA, it is impossible even to discuss a merger, unless ALPA should demonstrate that it is prepared to change its attitude and begin to display the respect for the rights of FEIA and its members essential to mutual trust and confidence.

In the opinion of the Commission, FEIA has exaggerated the difficulty of negotiating a fair merger agreement and of protecting such an agreement once reached. From its study of this subject, the Commission is confident that if a merger agreement of any kind between the two unions was reached, it could be legally protected. Such an agreement could have the support of the Government in an effective form, as well as the support of the AFL-CIO. The Commission stands ready to assist FEIA and ALPA in effecting a merger or other agreement containing such protection.

It is important that this merger approach has received the repeated endorsement of the AFL-CIO. Every disinterested observer, governmental or private, who has expressed an opinion to the Commission shares the view that the flight crew should be represented by one union. The Commission firmly endorses such a solution.

It is perhaps true that the United decision has hardened the resistance of FEIA to merger. There has been objective criticism of ALPA for its attempt to accomplish that result by the filing of single-unit petitions, as endangering the entire craft or class concept underlying the Railway Labor Act. Some of this criticism has come from AFL-CIO officials who have urged voluntary merger into a single trade union.

ALPA's position has similarly been hardened by the pilots' loss of employment during the February walkout.

This may be a difficult moment to attempt to persuade the two unions to adopt the cooperative attitude essential to merger. Yet the Commission feels that any merger should come about by voluntary action, through collective bargaining and mediation. Some beginning must be made toward cooperation between the two organizations if their relationships are not to go from bad to worse, with the public, the carriers, and the individual pilots and flight engineers suffering the consequences.

To this end, the Commission recommends that on the property of each carrier the unions establish a Joint Committee on Inter-Union Cooperation. The function of such a Committee is implicit in its name.

B. Jet Crew Complement

Thirteen airlines now operate turbojets. Nine of the thirteen operate with a three-man crew. In those nine cases, all three crew members are to some extent pilot-qualified, and at least one of the three also holds a flight engineer certificate.

In 1958, the Eastern Air Lines Emergency Board, after careful study, recommended, assuming a crew of three, that all three have some degree of pilot qualification. FEIA rejected the recomendation because of its objection to adding pilot qualification to the flight engineer's job.

Six airlines involved in the present controversy — American, Eastern, Pan American, TWA, Flying Tiger, and Western, now have agreements with ALPA calling for three qualified pilots on turbojets, and agreements with FEIA calling for a non-pilot flight engineer as a crew member. The seventh airline, National, has a crew of three, consisting of a captain, a copilot, and a flight engineer possessing a commercial pilot's license and instrument rating, with a pending demand by ALPA that the flight engineer, though represented by FEIA, receive additional pilot training.

In no instance has an airline once having had an all-pilot crew subsequently converted to a crew of two pilots and a non-pilot flight engineer. Several airlines having non-pilot engineers have converted to all-pilot crews on turbojet equipment and, in some cases, on all aircraft.

From these facts, the pattern that emerges is a turbojet crew of three pilots, at least one of whom possesses a flight engineer's certificate, or two pilots and an engineer with some pilot qualifications.

FEIA charges that this pattern is simply an historical accident, brought about by the power tactics of ALPA, and that the presence in the cockpit of an engineer specialist performing no pilot duties, whether two or three pilots be carried, is essential to safe and efficient operations. The FAA, however, has advised the Commission, on the basis of experience, that an all-pilot crew is equally safe. There is no evidence that it is less efficient. So far as the Commission is aware, labor relations under such an arrangement are peaceful and harmonious.

There is reliable opinion that a three-pilot crew has advantages from the point of view of efficiency, interchangeability and job security. We believe these to be significant facts which should guide us in our recommendations.

As a public agency, this Commission feels an obligation to assist in achieving a reduction from four to three flight crew members on turbojets as a means of promoting economical, yet safe, air transportation. This is particularly true in a period when public agencies and labor and management generally are re-examining seemingly wasteful practices, regardless of their origin, with a view to their elimination and the improvement of productivity, while at the same time recognizing the job equities of incumbent employees.

The importance of economical operation to employment security in air transportation was stressed by the Aviation Adviser to the President when he addressed the carriers and unions at the meeting of May 9, 1961, previously mentioned.

In support of that objective, the Commission endorses the principle of transition from a four-man to a three-man crew on turbojets, with reasonably adequate protection for the job equities of those employees who may be adversely affected by such transition.

C. Job Security

The problem of job security has two aspects. The first and broader aspect, which gives FEIA such concern that it triggered the recent strike, relates to the possible impact of the United decision on the job security of flight engineers on the airlines before the Commission. This aspect of the problem has been considered above as part of the representation issue.

The second aspect of the problem of job security stems directly from the prospect of reduction from a four-man to a three-man crew. Four carriers (American, Eastern, Pan American, and TWA) are now operating with a four-man crew. The problem is when and how they can make the transition. If that goal should be achieved through assigning the flight engineer as the third crew member, ALPA's need would be to insure reasonably adequate job or pay protection for pilots with present employment rights, and to insure that the occupant of the third seat has the qualifications and training adequate to meet its standard of a crew of three qualified pilots. If, on the other hand, the goal in question should be achieved through retention of the second officer as the third crew member, FEIA's position undoubtedly would be to seek reasonably adequate job or pay

protection for flight engineers with present employment rights.

On National, which now operates with a crew of three (the third man being a flight engineer, who is required to obtain a commercial pilot's license and instrument rating at company expense but on his own time) the problem is what, if any, additional pilot training the flight engineer must have. On Flying Tiger, there is at the moment no problem of adjustment, since it does not yet operate turbojets.

Obviously, no recommendations can satisfy in full measure the desires of the carriers, FEIA and ALPA. In moving toward a three-man crew on turbojets, the carriers should have the obligation to provide reasonably adequate job protection, or pay protection in lieu thereof, for employees with job equities that would be adversely affected by the transition. It was, after all, the carriers' decision to establish a four-man crew, whatever the bargaining pressures. Furthermore, the savings which will result from a reduction in crew size will, over the years, be substantial.

The transition will proceed gradually if, in accordance with the Commission's recommendations, the carriers initiate three-man crews on all new turbojet equipment. At the same time, ALPA and FEIA should not insist on a solution which would unduly delay the transition or which would exceed the bounds of reasonably adequate job or pay protection, particularly for employees whose job equities have only recently been acquired or are only remotely affected. The most important thing is that the transition begin.

D. Transition to Three-Man Crews

The principle underlying the Commission's recommendations with respect to reduction of crew size on turbojets for those airlines presently employing four-man crews is that the carriers should be permitted to operate such turbojets with a three-man crew, provided that existing job equities of crewmembers receive reasonable protection. Accordingly, the Commission recommends that transition shall be affected in such a manner that it will not cause the displacement of present incumbent flight engineers on turbojet equipment, and they shall not be required to obtain pilot qualification. Further, the job equities of pilots with bidding rights on the four-man crews shall be reasonably protected.

To implement this program, the carriers may be required to operate some four-man crews for some time. However, that period will be reduced by normal attrition and by the carriers' providing alternatives to incumbent flight engineers on the turbojets in the form of severance pay, early retirement, suitable ground jobs, and the like.

The Commission recognizes that during the period when the carriers will be operating some turbojet equipment with a four-man crew and similar equipment with a three-man crew, there will be difficulties concerning scheduling and bidding for flight assignments. The Commission believes, however, that with study, ingenuity and cooperation by all concerned, these difficulties can be overcome or greatly mitigated.

More particularly the Commission suggests the following framework:

1. Flight engineers with turbojet bids or assignments on May 24, 1961 may remain on existing turbojet equipment without pilot qualifications.

2. Flight engineers on piston and tuboprop aircraft will continue on such aircraft, subject only to their seniority and the availability of such jobs. They may also qualify for the third seat of a three-man crew on turbojet equipment as provided below.

3. Flight engineers, who possess on May 24, 1961, a commercial pilot's license and instrument rating, shall have prior rights to bid the third seat of three-man crews on turbojets. In order to qualify for such an assignment they must have by a date to be negotiated by the parties, such commercial pilot's license and instrument rating, and such other airman training, if any, as the parties may agree is necessary.

4. The additional training, if any, that a flight engineer with a commercial pilot's license and instrument rating should have to qualify for the third seat of a three-man crew on the turbojets shall be established by negotiation.

Under the foregoing proposals some flight engineers and pilots would, under certain circumstances, suffer the loss of job opportunities. Flight engineers on piston or turboprop equipment on May 24, 1961 who fail to qualify or who, being eligible, fail to achieve promotion for a position on a three-man crew on turbojets have an equity in the loss of their present promotional opportunities to the turbojet as presently manned. The Commission, therefore, recommends that this equity should be recognized in some practical form such as a cash allowance in an amount depending on the nature and extent of the particular equity involved, length of service with the particular airline or appropriate subdivision thereof, and other relevent factors.

Flight engineers on piston and turboprop equipment as of May 24, 1961, who do qualify and, therefore, are eligible for the third seat on turbojet equipment suffer some loss of equity through the reduction in their bidding rights with the transition from a four to a three-man crew on jets. That loss of equity should also be appropriately compensated.

Pilots whose job and promotional opportunities are impaired either on piston and turboprop or on turbojet equipment by the transition from a four to a three-man crew also sustain a loss of equity through a change in the rules of the game during their employment. They likewise should be appropriately compensated for that loss.

The matter of new hires, viewed in the context of the above, would appear to present no serious problem of logic or equity. Since a new hire will, in most cases, be interested in bidding the third seat on the turbojets, he should possess or acquire both pilot qualifications and a flight engineer's certificate. If the new man should be hired for or bid a flight engineer's job on a non-jet aircraft, he should be placed on the engineers' seniority roster and be represented by the FEIA. If he should be hired for or bid a pilot's job, he should be placed on the pilots' seniority list and be represented by ALPA.

E. The Western Air Lines Discharges

The Commission does not purport to pass on the legal propriety of the Western Air Lines discharges. Two facts, nevertheless, deserve consideration. One is that six other carriers, despite the same provocation, considered it in the national interest to comply with the request of the Secretary of Labor to take no disciplinary action against their striking employees, in order to facilitate the work of the Commission. The other is that well over 100 employees of Western lost their jobs.

The Commission recommends that if Western cannot see its way clear to take back these employees, it agree to the appointment of a neutral person or persons authorized to make recommendations after hearing both sides of the case. Western and FEIA might wish to consider such a procedure as a substitute for all pending litigation involving the same matter.

CONCLUSION

The Commission firmly endorses the philosophy of the National Mediation Board, reflecting our national labor policy, that government should not intervene directly in labor-management

(Continued on page 23)

With the Flight Attendants

TWA hostess Sally Stewart gets a sample ALPA Steward and Stewardess Division pin from Mr. Kay McMurray at a TWA hostess committee meeting held in the home office in May. Present (left to right) Carol Carraro, Jacque Going, K. McMurray, Sally Stewart, Jenny Hansen, Jane Schiffmacher, and Carole Dalley.

Flight attendants for ALPA in six elections

Flight attendants are continuing to show their preference for a single union to represent flight crew members.

The flight attendants of a third air line on which federally-conducted elections have been requested to determine the proper collective bargaining representative have voted by a majority of approximately 60 per cent to be represented by the Steward and Stewardess Division of the Air Line Pilots Association, Int'l, (AFL-CIO).

Results of a representation election among the flight attendants of Pacific Northern, conducted under the auspices of the National Mediation Board, which counted the ballots in Chicago, May 15, 1961, showed them voting 19 to 13 for representation in the pilots' organization, the ALPA announced.

The Pacific Northern election was a third of a series of votes which the Air Line Pilots Association has requested to permit individual flight attendants to decide by secret ballot which organization they wish to represent them.

West Coast, Alaska victories

Results of elections held on West Coast and Alaska Airlines, conducted under the auspices of the National Mediation Board which counted the ballots in Chicago May 19, 1961, showed overwhelming victories for the ALPA by the respective margins of 53 to zero and 22 to two.

This marks the fifth victory in as many elections for the ALPA and means flight attendants are continuing to show their preference for a single union to represent flight crew members.

Mohawk for ALPA

Flight attendants of Mohawk Airlines, Inc., voted unanimously for the Steward and Stewardess Division of the Air Line Pilots Association, Int'l (AFL-CIO) to represent them.

Results of the election, conducted under the auspices of the National Mediation Board which counted the ballots in Washington, D. C., May 22, 1961, showed that of the 65 eligible voters, 53 voted; 51 for ALPA with two ballots voided.

This marks the sixth victory in as many elections for ALPA and shows that flight attendants, when allowed to designate the collective bargaining agent of their choice through elective processes, continue to show preference for a single union to represent flight crew members.

In all elections, the S and S Division of ALPA received more than 86 per cent of the 1,443 valid votes cast, garnering a total of 1,250 votes to 193 for other groups, and giving the pilots' organization recognized and confirmed representation rights to more than 1,500 flight attendants.

The other elections were held on United, Braniff, Pacific Northern, West Coast and Alaska air lines. Additional elections are in progress on Continental, Capital and North Central; with elections pending when federal mediators are available on National, Ozark, Piedmont and Frontier.

Caroline E. Caldwell — UAL

THE FEINSINGER . . .

(Continued from page 21)

disputes by recommendations or otherwise, until the parties have fully discharged the responsibilities of collective bargaining; further that if intervention be required, as in this controversy, it should take a form which will stimulate further bargaining rather than replace it. Accordingly, the Commission will not at this time go beyond recommendations in the nature of guidelines for bargaining among the three groups involved. Implementation of those recommendations will require bargaining not only between the carriers and their two unions but between the two unions as well. In our considered judgment, intelligent bargaining, including a measure of restraint and using the Commission's recommendations as a framework for negotiations, can produce a settlement which will constitute a significant step in the direction of enduring peace in the cockpit.

The Commission urges the carriers, FEIA, ALPA and the rank and file of those unions to study this report carefully and dispassionately.

In the considered opinion of the Commission, based on three months of study, frequent conferences with expert and impartial Government officials, many conferences with the parties, and a number of visits to the flight deck to talk to the crew when the occasion permitted, that the foregoing recommendations represent a framework for a realistic and equitable solution of a long festering problem which has prevented labor peace, threatened safety of operations, and greatly inconvenienced the public.

If this controversy is **not** resolved consistently with the guide lines which the Commission has outlined in an industrial relations context, it might reasonably be considered as having passed beyond the stage of a labor dispute into the realm of a safety problem, meriting the consideration of the appropriate federal authorities. Such consideration, the Commission anticipates, will include a complete review of the crew complement requirements, including the number of flight crew members and their respective qualifications, training, and assigned duties.

The report provides some points with which, viewed in isolation, each party might honestly and reasonably disagree. The report as a whole, however, provides the maximum satisfaction of basic needs of each party consistent with equal satisfaction of the needs of the other parties and, above all, satisfaction of the public interest.

The Commission proposes that the parties negotiate on the basis of its report and advise the Commission of their progress within 30 days. Thereafter, the Commission will determine what, if any, further action might be required.

Finally, it may be observed that at times it may take more courage to say "yes" than to say "no." This may be such an occasion. Courage accounts for the magnificent job performed by the pilot and the flight engineer in his occupation. The public trustfully places its lives in their custody. Today, the Commission entrusts a formula for long-range peace in the cockpit in that custody.

Respectfully submitted,

PRESIDENT'S COMMISSION ON THE AIRLINES CONTROVERSY

Richard A. Lester
J. Keith Mann
Nathan P. Feinsinger, Chairman

May 24, 1961, Washington, D. C.

THE NEED FOR . . .

(Continued from page 11)

airways system, the control of the airspace and related facilities. There is no alternative to viewing the airport and its related facilities as an integral part of the airways system. It is only reasonable, therefore, that the federal government should be an active partner with the local communities in the development of the airport system. We feel the federal government has been too reluctant a partner in recent years and that we must work together to bring an awakening of the public and government officials to this shirking of the responsibility and its impact on the development of our country.

We are not certain that the amount proposed in HR 6580 is sufficient. We would prefer to see $100,000,000 per year for five years but strongly endorse the proposed legislation as a minimum.

We appreciate the opportunity to make our views known.

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